DETAILED ACTION

Oath/Declaration

The oath or declaration submitted on 06/02/2004 is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

It does not state that the person making the oath or declaration believes the named inventor or inventors to be the original and first inventor or inventors of the subject matter which is claimed and for which a patent is sought.

The specification to which the oath or declaration is directed has not been adequately identified. See MPEP § 602.

It does not state that the person making the oath or declaration has reviewed and understands the contents of the specification, including the claims, as amended by any amendment specifically referred to in the oath or declaration.

It does not state that the person making the oath or declaration acknowledges the duty to disclose to the Office all information known to the person to be "material to patentability as defined in 37 CFR 1.56."

What appears to have happened was the omission of the first sheet from the signed declaration. While it is appreciated that a complete yet unsigned declaration was provided on 02/19/2004, the signed declaration is incomplete. Please refer to 37 CFR 1.67 for submission of a supplemental oath or declaration.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given by James Keddie on 01/12/2010.

The claims are amended as follows:

1-103. (Cancelled)

104. A method for determining **the likelihood of survival, disease recurrence or response to treatment** ~~cancer prognosis or prediction~~ for a human subject **with cancer** comprising:

(a) hybridizing a polynucleotide complementary to an intronic RNA sequence of a **human** target gene **other than GRB7 or STMY3** to intronic RNA from a tissue sample that has been obtained from [[a]] **the** human subject with cancer or a nucleic acid produced therefrom, to form a complex;

(b) quantitating the complex to determine the expression level of the **human** target gene;

(c) normalizing the expression level of the **human** target gene relative to the expression level of one or more reference genes in the tissue sample to determine a normalized expression level of the **human** target gene;

(d) comparing said normalized expression level of said **human** target gene to data based on normalized expression of the **human** target gene in cancer tissue samples obtained from patients of known clinical outcome; and

(e) determining **the likelihood of survival, disease recurrence or response to treatment** ~~cancer prognosis or prediction~~ for the human subject **with cancer** based on results obtained from step (d).

105. (Cancelled)

106. The method of claim 104, wherein the tissue sample is a resected tumor specimen or a tumor biopsy.

107. The method of claim 106, wherein the tissue sample is formalin-fixed paraffin-embedded tissue.

108. The method of claim 106, wherein the tissue sample comprises breast cancer tissue.

109. (Cancelled)

110. A method for determining **the likelihood of survival, disease recurrence or response to treatment** ~~cancer prognosis or prediction~~ for a human subject **with cancer** comprising:

(a) hybridizing a polynucleotide that is immobilized on a solid support and complementary to an intronic RNA sequence of a **human** target gene **other than GRB7 or STMY3** to intronic RNA from a tissue sample that has been taken from [[a]] **the** human subject **with cancer** or a nucleic acid produced therefrom, to form a complex;

(b) quantitating the complex to determine the expression level of the **human** target gene wherein the complex is quantitatively detected using an array;

(c) normalizing the expression level of the **human** target gene relative to the expression level of one or more reference genes in the tissue sample to determine a normalized expression level of the **human** target gene;

(d) comparing the normalized expression level of the **human** target gene to data based on the normalized expression of the **human** target gene in cancer tissue samples obtained from patients of known clinical outcome; and

(e) determining **the likelihood of survival, disease recurrence or response to treatment** ~~cancer prognosis or prediction~~ for the human subject **with cancer** based on results obtained from step (d).

111. The method of claim 104, wherein the polynucleotide is a primer and the complex is quantitatively detected using quantitative PCR.

112. (Cancelled)

113. The method of claim 104, wherein the polynucleotide is an oligonucleotide.

REASONS FOR ALLOWANCE

The following is an examiner's statement of reasons for allowance: Applicant's arguments presented 11/19/2009 have been found persuasive. Whereas "gene expression" can be measured in many ways (e.g. by transcription rate, level of mRNA, level of protein), Applicant has presented evidence from the literature that the various ways of measuring gene expression do not necessarily correlate with one another (e.g. transcription rate does not necessarily correlate with mRNA or protein levels, level of mRNA does not necessarily correlate with level of protein). Duvick (US 7,026,123) stated that "spliced-out intron RNA would be detected at a level proportional to the transcription rate" (column 5, line 65). Therefore, the relevant question is: was there a reasonable expectation of success that gene expression, as measured by transcription

rate or level of intronic RNA, could be used to determine likelihood of survival, disease recurrence or response to treatment?

The prior art does not teach or suggest that levels of intronic RNA could be correlated with these outcomes. While Dai taught similar methods using mRNA, the possibility that intronic RNA could also be used in this manner was not predictable from the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to SAMUEL C. WOOLWINE whose telephone number is (571)272-1144. The examiner can normally be reached on Mon-Fri 9:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Benzion can be reached on (571) 272-0782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Samuel Woolwine/
Examiner, Art Unit 1637